

**Amendments to the Specification:**

Please replace the Abstract with the attached amended Abstract.

Please replace the paragraph beginning on page 8, line 11, with the following rewritten paragraph:

According to a particular embodiment of the invention, said pair of primers, used in stage B, is selected from the following pairs of primers:

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 1 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 2; indicatively, when the first primer has SEQ ID No. 1 as its sequence, and the second primer has SEQ ID No. 2 as its sequence, an amplicon is obtained that is specific to the gene coding for ESR1, with a size of 202 base pairs, which corresponds to sequence 1427-1629 on the sequence of the reference gene coding for ESR1 (Genbank X03635).
- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 3 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 4; indicatively, when the first primer has SEQ ID No. 3 as its sequence, and the second primer has SEQ ID No. 4 as its sequence, an amplicon is then obtained that is specific to the gene coding for PGR, with a size of 184 base pairs, which corresponds to sequence 2761-2945 on the reference sequence coding for PGR (Genbank NM\_000926).
- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 5 and a second

amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 6; indicatively, when the first primer has SEQ ID No. 5 as its sequence, and the second primer has SEQ ID No. 6 as its sequence, an amplicon is then obtained that is specific to the ESR2 gene, with a size of 210 base pairs, which corresponds to sequence 1640-1850 on the reference sequence coding for ESR2 (~~Genbank MN\_001437~~)(Genbank NM\_001437).

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 7 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 8; indicatively, when the first primer has SEQ ID No. 7 as its sequence, and the second primer has SEQ ID No. 8 as its sequence, an amplicon is then obtained that is specific to the gene coding for HER2, with a size of 185 base pairs, which corresponds to sequence 2567-2752 on the reference sequence coding for HER2 (~~Genbank NM\_00448~~)(Genbank NM\_004448).
- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 13 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 14; indicatively, when the first primer has SEQ ID No. 13 as its sequence, and the second primer has SEQ ID No. 14 as its sequence, an amplicon is obtained that is specific to the gene coding for ESR1, with a size of 858 base pairs, which corresponds to sequence 808-1666 on the reference sequence coding for ESR1 (Genbank X03635).
- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 15 and a second amplification primer comprising at least 10, preferably 15 and even more preferably

20 nucleotide motifs of nucleotide sequence SEQ ID No. 16; indicatively, when the first primer has SEQ ID No. 15 as its sequence, and the second primer has SEQ ID No. 16 as its sequence, an amplicon is then obtained that is specific to the gene coding for PGR, with a size of 658 base pairs, which corresponds to sequence 2319-2977 on the reference sequence coding for PGR (Genbank NM\_000926).

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 17 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 18; indicatively, when the first primer has SEQ ID No. 17 as its sequence, and the second primer has SEQ ID No. 18 as its sequence, an amplicon is then obtained that is specific to the gene coding for ESR2, with a size of 702 base pairs, which corresponds to sequence 1246-1948 on the reference sequence coding for ESR2 (~~Genbank MN\_001437~~) (Genbank NM\_001437).
- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 19 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 20; indicatively, when the first primer has SEQ ID No. 19 as its sequence, and the second primer has SEQ ID No. 20 as its sequence, an amplicon is then obtained that is specific to the gene coding for HER2, with a size of 928 base pairs, which corresponds to sequence 2123-3051 on the reference sequence coding for HER2 (Genbank NM\_004448).

Please replace the paragraph beginning on page 15, line 18, with the following rewritten paragraph:

As shown in the following example, when we wish to detect the target gene coding for ESR2 (reference sequence NCBI accession number: ~~MN\_001437~~NM\_001437), the following are preferably used in stage b):

- ☐ a first primer of SEQ ID No. 5 or 23,
- ☐ a second primer of SEQ ID No. 6

and in stage c)

- ☐ a detection probe comprising SEQ ID No. 11.

Please replace the paragraph beginning on page 15, line 25, with the following rewritten paragraph:

As shown in the following example, when we wish to detect the target gene coding for HER2 (reference sequence NCBI accession number: ~~NM\_004448~~NM\_004448), the following are preferably used in stage b):

- ☐ a first primer of SEQ ID No. 7 or 24,
- ☐ a second primer of SEQ ID No. 8

and in stage c)

- ☐ a detection probe comprising SEQ ID No. 12.

Please replace the paragraph beginning on page 16, line 25, with the following rewritten paragraph:

The invention also relates to a pair of primers selected from the following pairs of primers:

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 1 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 2; indicatively, when the first primer has SEQ ID No. 1 as its sequence, and the second primer has SEQ ID No. 2 as its sequence, an amplicon is obtained that is specific to the gene coding for ESR1, with a size of 202 base pairs, which corresponds to sequence 1427-1629 on the reference sequence coding for ESR1 (Genbank X03635).
- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 3 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 4; indicatively, when the first primer has SEQ ID No. 3 as its sequence, and the second primer has SEQ ID No. 4 as its sequence, an amplicon is then obtained that is specific to the gene coding for PGR, with a size of 184 base pairs, which corresponds to sequence 2761-2945 on the reference sequence coding for PGR (Genbank NM\_000926).
- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 5 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 6; indicatively, when the

first primer has SEQ ID No. 5 as its sequence, and the second primer has SEQ ID No. 6 as its sequence, an amplicon is then obtained that is specific to the gene coding for ESR2, with a size of 210 base pairs, which corresponds to sequence 1640-1850 on the reference sequence coding for ESR2 (~~Genbank MN\_001437~~)(Genbank NM\_001437).

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 7 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 8; indicatively, when the first primer has SEQ ID No. 7 as its sequence, and the second primer has SEQ ID No. 8 as its sequence, an amplicon is then obtained that is specific to the gene coding for HER2, with a size of 185 base pairs, which corresponds to sequence 2567-2752 on the reference sequence coding for HER2 (~~Genbank MN\_004448~~)(Genbank NM\_004448).

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 13 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 14; indicatively, when the first primer has SEQ ID No. 13 as its sequence, and the second primer has SEQ ID No. 14 as its sequence, an amplicon is obtained that is specific to the gene coding for ESR1, with a size of 858 base pairs, which corresponds to sequence 808-1666 on the reference sequence coding for ESR1 (Genbank X03635).

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 15 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 16; indicatively, when the first primer has SEQ ID No. 15 as its sequence, and the second primer has SEQ ID

No. 16 as its sequence, an amplicon is then obtained that is specific to the gene coding for PGR, with a size of 658 base pairs, which corresponds to sequence 2319-2977 on the reference sequence coding for PGR (Genbank NM\_000926).

- a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 17 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 18; indicatively, when the first primer has SEQ ID No. 17 as its sequence, and the second primer has SEQ ID No. 18 as its sequence, an amplicon is then obtained that is specific to the gene coding for ESR2, with a size of 702 base pairs, which corresponds to sequence 1246-1948 on the reference sequence coding for ESR2—(~~Genbank MN\_001437~~)(Genbank NM\_001437).

a first amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 19 and a second amplification primer comprising at least 10, preferably 15 and even more preferably 20 nucleotide motifs of nucleotide sequence SEQ ID No. 20; indicatively, when the first primer has SEQ ID No. 19 as its sequence, and the second primer has SEQ ID No. 20 as its sequence, an amplicon is then obtained that is specific to the gene coding for HER2, with a size of 928 base pairs, which corresponds to sequence 2123-3051 on the reference sequence coding for HER2—(~~Genbank MN\_004448~~)(Genbank NM\_004448).

Please replace the paragraph beginning on page 21, line 19, with the following rewritten paragraph:

As shown in the following example, when we wish to detect the target gene coding for ESR2 (reference sequence NCBI accession number:—~~MN\_001437~~)(NM\_001437), the kit preferably comprises

- ❑ a first primer of SEQ ID No. 5 or 23
- ❑ a second primer of SEQ ID No. 6
- ❑ a detection probe comprising SEQ ID No. 11.

Please replace the paragraph beginning on page 21, line 25, with the following rewritten paragraph:

As shown in the following example, when we wish to detect the target gene coding for HER2 (reference sequence NCBI accession number: ~~NM\_004448~~NM\_004448), the kit preferably comprises

- ❑ a first primer of SEQ ID No. 7 or 24
- ❑ a second primer of SEQ ID No. 8

a detection probe comprising SEQ ID No. 12.

Please replace the paragraph beginning on page 22, line 25, with the following rewritten paragraph:

This example was carried out using three lines of tumor cells, whose expression of hormone receptors was previously determined by IHC or radioligand (or LBA), were used: MCF-7 (expressing the receptors ESR1 and PGR), T47D (not expressing the ESR1 receptor and expressing the PGR receptor) and BT-549 (expressing neither the ESR1 receptor, nor the PGR receptor). These lines were obtained from the American Type Culture Collection (ATCC, Manassas, VA, USA). These cell lines were cultured in DMEM medium (MCF-7) or RPMI 1640 (T47D and BT-549), supplemented with fetal calf serum (10%), L-glutamine (2mM), nonessential amino acids (1%) and streptomycin (10 µg/ml) at 37°C under an atmosphere comprising 5% CO<sub>2</sub>.



Please replace the paragraph beginning on page 26, line 27, with the following rewritten paragraph:

Thus, for the target gene coding for ESR2 (reference sequence NCBI accession number: ~~MN\_001437~~)NM\_001437), a first primer of SEQ ID No. 17 5' GCCGCCCCAT GTGCTGAT 3' and a second primer of SEQ ID No. 18 5' GGACCCCGTGA TGGAGGACTT 3' were used, located respectively in position 1246-1263 and 1928-1948 of the reference sequence. The sequence of these ESR2 amplicons was verified by sequencing (Biofidal, Vaulx en Velin, France), in order to ensure that it did indeed correspond to the sequence of the target gene that was to be amplified. The amplicons obtained were indeed specific to the ESR2 gene.

Please replace the paragraph beginning on page 27, line 28, with the following rewritten paragraph:

Thus, for the target gene coding for HER2 (reference sequence NCBI accession number: ~~NM\_00448~~)NM\_004448), a first primer of SEQ ID No. 19 5' TGGTTGGCAT TCTGCTGGTC GTGGT 3' and a second primer of SEQ ID No. 20 5' TGGCCGACAT TCAGAGTCAA TCATC 3' were used, located respectively in position 2123-2147 and 3027-3051 of the reference sequence. The sequence of these HER2 amplicons was verified by sequencing (Biofidal, Vaulx en Velin, France), in order to ensure that it did indeed correspond to the sequence of the target gene that was to be amplified. The amplicons obtained were indeed specific to the HER2 gene.